

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A film formation method for forming a metal nitride film having a predetermined thickness on a target substrate within a process container configured to be selectively supplied with a metal compound gas and a nitrogen-containing reducing gas, the film formation method being preset to repeat a cycle a plurality of times while heating the target substrate at a film formation temperature, the cycle comprising:

a first step of supplying the metal compound gas and the nitrogen-containing reducing gas into the process container, thereby forming a film of a metal nitride by CVD, while carrying the metal compound gas via nitrogen gas supplied through a first flow-rate controller and carrying the nitrogen-containing reducing gas via nitrogen gas supplied through a second flow-rate controller;

then, a first purge step of supplying a purge gas into the process container without supplying the metal compound gas and the nitrogen-containing reducing gas into the process container, thereby purging the process container;

then, a second step of supplying the nitrogen-containing reducing gas into the process container without supplying the metal compound gas into the process container, while carrying the nitrogen-containing reducing gas via nitrogen gas supplied through the second flow-rate controller; and

then, a second purge step of supplying a purge gas into the process container without supplying the metal compound gas and the nitrogen-containing reducing gas into the process container, thereby purging the process container,

wherein the film formation temperature is set to be less than 450°C, the process container is set to have therein a total pressure of ~~more than~~ 100 to 667 Pa in the first and second steps, ~~[[and]]~~ the nitrogen-containing reducing gas is set to have a partial pressure of

30 Pa or less within the process container in the first step, and the nitrogen-containing reducing gas is set to have a partial pressure of more than 100 Pa within the process container in the second step.

Claim 2 (Original): The film formation method according to claim 1, wherein a film thickness obtained by the cycle performed once is set to be 0.50 nm or less.

Claim 3 (Original): The film formation method according to claim 1, wherein, in the first step, the nitrogen-containing reducing gas is set to have a partial pressure of 20 Pa or less within the process container.

Claim 4 (Original): The film formation method according to claim 3, wherein a film thickness obtained by the cycle performed once is set to be 2.0 nm or less.

Claim 5 (Original): The film formation method according to claim 1, wherein, in the first step, the nitrogen-containing reducing gas is set to have a partial pressure of 15 Pa or less within the process container.

Claim 6 (Previously Presented): The film formation method according to claim 1, wherein the film formation temperature is set to be 400°C or less.

Claim 7 (Currently Amended): A film formation method for forming a TiN film having a predetermined thickness on a target substrate within a process container configured to be selectively supplied with a Ti compound gas and a nitrogen-containing reducing gas,

the film formation method being preset to repeat a cycle a plurality of times while heating the target substrate at a film formation temperature, the cycle comprising:

a first step of supplying the Ti compound gas and the nitrogen-containing reducing gas into the process container, thereby forming a film of TiN by CVD, while carrying the Ti compound gas via nitrogen gas supplied through a first flow-rate controller and carrying the nitrogen-containing reducing gas via nitrogen gas supplied through a second flow-rate controller;

then, a first purge step of supplying a purge gas into the process container without supplying the Ti compound gas and the nitrogen-containing reducing gas into the process container, thereby purging the process container;

then, a second step of supplying the nitrogen-containing reducing gas into the process container without supplying the Ti compound gas into the process container, while carrying the nitrogen-containing reducing gas via nitrogen gas supplied through the second flow-rate controller; and

then, a second purge step of supplying a purge gas into the process container without supplying the Ti compound gas and the nitrogen-containing reducing gas into the process container, thereby purging the process container,

wherein the film formation temperature is set to be less than 450°C, the process container is set to have therein a total pressure of ~~more than~~ 100 to 667 Pa in the first and second steps, [[and]] the nitrogen-containing reducing gas is set to have a partial pressure of 30 Pa or less within the process container in the first step, and the nitrogen-containing reducing gas is set to have a partial pressure of more than 100 Pa within the process container in the second step.

Claim 8 (Original): The film formation method according to claim 7, wherein the Ti compound gas is TiCl_4 and the nitrogen-containing reducing gas is NH_3 .

Claim 9 (Original): The film formation method according to claim 7, wherein a film thickness obtained by the cycle performed once is set to be 0.50 nm or less.

Claim 10 (Original): The film formation method according to claim 7, wherein, in the first step, the nitrogen-containing reducing gas is set to have a partial pressure of 20 Pa or less within the process container.

Claim 11 (Original): The film formation method according to claim 10, wherein a film thickness obtained by the cycle performed once is set to be 2.0 nm or less.

Claim 12 (Original): The film formation method according to claim 7, wherein, in the first step, the nitrogen-containing reducing gas is set to have a partial pressure of 15 Pa or less within the process container.

Claim 13 (Previously Presented): The film formation method according to claim 7, wherein the film formation temperature is set to be 400°C or less.

Claim 14 (Original): The film formation method according to claim 7, wherein, in the first step, the nitrogen-containing reducing gas is set at a flow rate of 20 mL/min or more.

Claim 15 (Original): The film formation method according to claim 7, wherein, in the first step, the Ti compound gas is set to have a partial pressure of more than 10 Pa and not more than 50 Pa.

Claim 16 (Original): The film formation method according to claim 7, wherein the TiN film is set to have a resistivity of 800 $\mu\Omega$ -cm or less.

Claims 17-46 (Canceled).

Claim 47 (New): The film formation method according to claim 1, wherein the metal compound gas is TiCl_4 and the nitrogen-containing reducing gas is NH_3 .